WHAT IS CLAIMED IS:

1. A method of forming micro-particles, comprising:

providing a solution source containing a solution including a first solvent and a first component in a first ratio;

forming a plurality of droplets of said solution using a spray head in fluid communication with the solution source; and

providing a solvent reservoir at a first distance from the spray head, said reservoir containing a second solvent, wherein droplets received by the reservoir interact with the second solvent such that microparticles of the first component are formed, wherein at least one property of the microparticles is a function of the first ratio.

2. The method of claim 1, wherein the first ratio is a weight-by-volume percentage and wherein the size of a microparticle is substantially equal to the size of a droplet multiplied by the first ratio.

3. The method of claim 2, wherein the first ratio is less than about 5% weight-by-volume of first component to first solvent, wherein the average size of each droplet is less than approximately 1.0 μm, such that the average size of each microparticle is less than about 50 nm.

4. The method of claim 2, wherein the first ratio is less than about 10% weight-by-volume of first component to first solvent, wherein the average size of each droplet is less than approximately 10 μm, such that the average size of each microparticle is less than about 1,000 nm.

5. The method of claim 2, wherein the first ratio is between about 5% to 10% weight-by-volume of first component to first solvent, wherein the average size of each droplet is between about 1.0 μm and 10 μm, such that the average size of each microparticle is between about 50 nm and 1,000 nm.

6. The method of claim 1, wherein the first component includes a nucleic acid.

7. The method of claim 6, wherein the nucleic acid is selected from the group consisting of DNA, RNA, DNA/RNA hybrids, an antisense oligonucleotide, a chimeric DNA-RNA polymer, a ribozyme, and a plasmid DNA.

8. The method of claim 1, wherein the first component includes a one or more active pharmaceutical ingredients (APIs).

9. The method of claim 1, further including adjusting the first distance between the spray head and the reservoir.

10. The method of claim 1, wherein the plurality of droplets all have substantially the same average size based on the flow rate and temperature of the solution entering the spray head, the method further comprising adjusting the average size of the droplets by controlling one or both of the flow rate and temperature of solution entering the spray head.

11. The method of claim 1, further comprising adding a second component to the second solvent in the reservoir.

12. The method of claim 11, wherein the second component includes one of a process component and a formulation component.

13. The method of claim 12, wherein the process component includes one of a dispersant and a stabilizer.

14. The method of claim 11, wherein the second component includes a nucleic acid having an affinity for the first component.

15. The method of claim 1, wherein the second solvent is immiscible with said first solvent.

16. The method of claim 1, wherein the at least one property includes one or more of the size, the integrity and the stability of the microparticle.

17. A system for forming microparticles, comprising:

a solution source containing a solution including a first solvent and a first component in a first ratio;

a solvent reservoir containing a second solvent;

a spray device in fluid communication with said solution source, said spray device having a spray head configured to produce droplets of said solution having substantially the same average size; and

a housing for both the spray head and the solvent reservoir, said housing defining a spray chamber,

wherein solution droplets formed by the spray head within the spray chamber traverse the distance between the spray head and the reservoir and interact with the second solvent in the reservoir so as to form microparticles of the first component, wherein at least one property of each microparticle formed is a function of the average size and the first ratio.

18. The system of claim 17, wherein the distance between the spray head and the reservoir is adjustable.

19. The system of claim 17, wherein the first ratio is a weight-by-volume percentage and wherein the size of a microparticle is substantially equal to the size of a droplet multiplied by the first ratio.

20. The system of claim 19, wherein the first ratio is less than about 5% weight-by-volume of first component to first solvent, wherein the average size of each droplet is less than approximately 1.0 μm, such that the average size of each microparticle is less than about 50 nm.

21. The system of claim 19, wherein the first ratio is less than about 10% weight-by-volume of first component to first solvent, wherein the average size of each droplet is less than approximately 10 μm, such that the average size of each microparticle is less than about 1,000 nm.

22. The system of claim 19, wherein the first ratio is between about 5% to 10% weight-by-volume of first component to first solvent, wherein the average size of each droplet is between about 1.0 μm and 10 μm, such that the average size of each microparticle is between about 50 nm and 1,000 nm.

23. The system of claim 17, wherein the average size of the droplets is a function of the flow rate and temperature of solution entering the spray head, wherein the

spray device is configured with a temperature control mechanism and a flow control mechanism.

24. The system of claim 23, wherein the temperature control mechanism includes a slideable metal jacket positioned proximal a solution inlet tube, whereby adjustably sliding the jacket over the tube adjusts the temperature of the solution entering the spray head through the inlet tube.

25. The system of claim 24, wherein the flow control mechanism includes a pressurized air source coupled to an air inlet port on the spray head, wherein the air flow from the air inlet port defines the flow rate of the solution from a solution inlet port on the spray head.

26. The system of claim 17, wherein the distance between the spray head and the reservoir is shorter than a distance in which the first solvent of the droplets would fully dry while traversing.

27. The system of claim 17, wherein the spray device includes a movable stage coupled to the housing, said movable stage allowing for adjustment of the distance between the spray head and the reservoir.

28. The system of claim 17, wherein the first component includes a nucleic acid.

29. The system of claim 28, wherein the nucleic acid is selected from the group consisting of DNA, RNA, DNA/RNA hybrids, an antisense oligonucleotide, a chimeric DNA-RNA polymer, a ribozyme, and a plasmid DNA.

30. The system of claim 17, wherein the first component includes a one or more active pharmaceutical ingredients (APIs).

31. The system of claim 17, wherein the second solvent is immiscible with said first solvent

32. The system of claim 17, wherein the at least one property includes one or more of the size, the integrity and the stability of the microparticle.

33. The system of claim 17, wherein the solvent reservoir includes a second component with the second solvent, said second component including one of a process component and a formulation component.

34. A device for use in a spray-dry-coacervation process, the device comprising:

a spray head having an air inlet port, a fluid inlet port, an outlet orifice and a substantially conical cavity portion coupling the inlet ports to the outlet orifice;

a temperature control module slideably coupled to each of an air inlet tube and a fluid inlet tube and configured to control the temperature of fluid entering the conical cavity portion, wherein said air inlet and fluid inlet tubes are connected to the air inlet and fluid inlet ports, respectively, wherein the air inlet tube is fluidly coupled to an air pressure source, and wherein the fluid inlet tube is fluidly coupled to a solution source; and

a translation stage configured to adjust the relative distance between the spray head and a target reservoir when coupled to a spray chamber housing,

wherein air flow through the air inlet port causes flow of solution from the solution source through the air inlet port at a rate determined by the rate of air flow through the air inlet port, and wherein the size of droplets of the solution formed at the outlet orifice is determined by the temperature of the solution and the rate of flow of the solution into the cavity portion and the size of the outlet orifice.

35. The device of claim 34,wherein the temperature control module includes a slideable metal jacket positioned proximal the fluid inlet tube, whereby adjustably sliding the jacket over the fluid inlet tube adjusts the temperature of the solution entering the cavity portion through the fluid inlet tube

36. The device of claim 34, wherein the device is configured to produce droplets of the solution all having substantially the same average size, said average size ranging in diameter from approximately 0.5 μm to approximately 100 μm.

37. The device of claim 34, wherein the solution is an aqueous solution.

38. The system of claim 17, wherein the solution is an aqueous solution.

39. The method of claim 1, wherein the solution is an aqueous solution.

40. A microparticle formed by:

providing a solution source containing a solution including a first solvent and a first component in a first ratio;

forming a droplet of said solution using a droplet forming device in fluid communication with the solution source; and

providing a solvent reservoir at a first distance from the device, said reservoir containing a second solvent, wherein the droplet interacts with the second solvent such that a microparticle of the first component is formed, wherein at least one property of the microparticle is a function of the first ratio.

41. The microparticle of claim 40, wherein the first ratio is a weight-by-volume percentage and wherein the size of the microparticle is substantially equal to the size of the droplet multiplied by the first ratio.

42. The microparticle of claim 41, wherein the first ratio is less than about 5% weight-by-volume of first component to first solvent, wherein the size of the droplet is less than approximately 1.0 μm, such that the size of the microparticle is less than about 50 nm.

43. The microparticle of claim 41, wherein the first ratio is less than about 10% weight-by-volume of first component to first solvent, wherein the size of the droplet is less than approximately 10 μm, such that the size of the microparticle is less than about 1,000 nm.

44. The microparticle of claim 41, wherein the first ratio is between about 5% to 10% weight-by-volume of first component to first solvent, wherein the size of the droplet is between about 1.0 μm and 10 μm, such that the size of the microparticle is between about 50 nm and 1,000 nm.

45. The microparticle of claim 40, wherein the first component includes a nucleic acid.

46. The microparticle of claim 45, wherein the nucleic acid is selected from the group consisting of DNA, RNA, DNA/RNA hybrids, an antisense oligonucleotide, a chimeric DNA-RNA polymer, a ribozyme, and a plasmid DNA.

47. The microparticle of claim 40, wherein the first component includes a one or more active pharmaceutical ingredients (APIs).

48. The microparticle of claim 40, wherein the microparticle is further formed by adding a second component to the second solvent in the reservoir, wherein the second component includes on of a process component and a formulation component.

49. The microparticle of claim 48, wherein the second component is one of a dispersant and a stabilizer.

50. The microparticle of claim 48, wherein the second component includes a nucleic acid having an affinity for the first component, such that the formed microparticle includes the second component.

51. The microparticle of claim 40, wherein the first solvent is immiscible with the second solvent.

52. The microparticle of claim 40, wherein the solution is an aqueous solution.

53. The microparticle of claim 40, wherein the first component includes β-interferon.

54. The system of claim 17, wherein the first component includes β-interferon.

55. The method of claim 1, wherein the first component includes β-interferon.

56. A method of forming micro-particles, comprising:

providing a solution source containing a solution including a first solvent and a set of one or more first components in a first ratio;

forming a plurality of droplets of said solution using a spray head in fluid communication with the solution source; and

providing a solution reservoir at a first distance from the spray head, said reservoir containing a second solvent, wherein droplets received by the reservoir interact with

the second solvent such that microparticles of the first component are formed, wherein at least one property of the microparticles is a function of the first ratio.

57. The method of claim 56, wherein said reservoir includes one or more additives.